

EXECUTIVE SUMMARY

Purpose

This Integrated Natural Resources Management Plan (INRMP) guides implementation of the natural resources program on Marine Corps Air Station (MCAS) Miramar (Station) from 2011 through 2015. The program conserves MCAS Miramar natural resources and helps ensure compliance with environmental laws and regulations. The INRMP actions help maintain quality training lands to accomplish MCAS Miramar's critical military mission on a sustained basis and ensure that natural resources conservation measures and military mission activities are integrated and consistent with federal stewardship requirements.

This INRMP shows interrelationships between individual components of natural resources management (*e.g.*, vegetation, wetlands, fish and wildlife), mission requirements and other land use activities affecting MCAS Miramar natural resources. The INRMP integrates current and future land use activities at MCAS Miramar with natural resources management and conservation.

The INRMP is intended to be a technical document used by persons planning and/or preparing Station approvals, management actions, orders, instructions, guidelines, standard operating procedures, and other plans. The INRMP provides technical guidance for the integration of natural resource issues and concerns into facilities and operational planning, in accordance with the NEPA decision-making processes.

This INRMP is not intended to be used by persons operating in the field, other than staff of the Environmental Management Department. Field personnel are expected to be operating under Station guidelines, plans, orders, or other approvals that have been developed using the INRMP and have already had environmental compliance review and, where applicable, regulatory approvals and/or permitting.

Environmental Compliance

General

Preparation and implementation of this INRMP are required by the Sikes Act (16 USC 670 *et seq.*), Department of Defense (DoD) Instruction 4715.3 (*Environmental Conservation Program*, as draft updated March 11, 2010), Office of the Secretary of Defense policy memo (*Implementation of Sikes Act Improvement Act: Updated Guidance*, October 10, 2002), and Marine Corps Order (MCO) P5090.2A (*Marine Corps Environmental Compliance Protection Manual*). This INRMP was prepared using the *Handbook for Preparing, Revising and Implementing Integrated Natural Resources Management Plans on Marine Corps Installations* (U.S. Marine Corps [USMC] 2007). This INRMP is a major revision of the 2006-2010 INRMP (MCAS Miramar INRMP 2006).

This INRMP helps MCAS Miramar comply with other federal and applicable state laws, most notably laws associated with environmental documentation, wetlands, endangered species, and wildlife management in general. Compliance requirements at least partially affecting implementation of the INRMP are listed in Appendix A. This INRMP also maintains the natural resource related Defense Base Closure and Realignment Act (BRAC) commitments resulting from the realignment of Naval Air Station (NAS) Miramar to MCAS Miramar.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires disclosure of environmental impacts created by

proposed major federal actions. The *Handbook for Preparing, Revising and Implementing Integrated Natural Resources Management Plans on Marine Corps Installations* (USMC 2007) and the Council on Environmental Quality (Implementing Guidelines for NEPA, 40 CFR Parts 1500-1508) recommend an Environmental Assessment be completed for natural resources management plans. MCO P5090.2A and Miramar Station Order 5090.4 outline NEPA compliance requirements of proposed Marine Corps actions. Thus, an accompanying Environmental Assessment is being prepared to analyze environmental impacts of implementing this INRMP, as a separate document.

Sikes Act

The Sikes Act¹ states, *The Secretary of Defense shall carry out a program to provide for the conservation and rehabilitation of natural resources on military installations. To facilitate the program, the Secretary of each military department shall prepare and implement an integrated natural resources management plan for each military installation ...*

The Sikes Act (16 USC 670 *et seq.*) requires that, consistent with the use of military installations to ensure the preparedness of the Armed Forces, each INRMP shall, where appropriate and applicable, provide for:

- fish and wildlife management, land management, forest management, and fish and wildlife-oriented recreation;
- fish and wildlife habitat enhancement or modifications;
- wetland protection, enhancement, and restoration where necessary for support of fish or wildlife;
- integration of, and consistency among, the various activities conducted under the INRMP;
- establishment of specific natural resources management objectives and time frames for proposed action;
- sustained use by the public of natural resources to the extent such use is not inconsistent with the needs of fish and wildlife resources management;
- public access to the military installation that is necessary or appropriate for sustained use by the public of natural resources to the extent that the use is not inconsistent with the needs of fish and wildlife resources, subject to requirements necessary to ensure safety and military security;
- enforcement of natural resource laws and regulations;
- no net loss in the capability of military installation lands to support the military mission of the installation; and
- such other activities as the Secretary of the military department considers appropriate.

The Sikes Act also requires or provides for:

- regular review of this INRMP and its effects, not less often than every five years;
- exemption from procurement of services under Office of Management and Budget Circular A-76 and any of its successor circulars; and
- priority for contracts involving implementation of this INRMP to state and federal agencies having responsibility for conservation of fish or wildlife.

Endangered Species Act

This INRMP has the concurrence of the U.S. Fish and Wildlife Service (USFWS). This concurrence includes agreement that the INRMP complies with the Endangered Species Act (ESA). Review of this INRMP was via informal consultation with regard to the ESA. Implementation of this INRMP is not likely to adversely affect

¹ The Sikes Act referenced in this INRMP is as amended, including Public Law 105-85, the Sikes Act Improvement Act of 1997.

any threatened or endangered species.

The USFWS considered but determined not to designate critical habitat aboard the Station for the San Diego fairy shrimp (USFWS 2007b), Riverside fairy shrimp (USFWS 2005), coastal California gnatcatcher (USFWS 2007a), spreading navarretia (USFWS 2010), willowy monardella (USFWS 2006), and the Quino checkerspot butterfly (USFWS 2009) (butterfly not found on MCAS Miramar but nearby). The USFWS made this determination because the Station's INRMP, as implemented, is a legally operative INRMP that "*provides a benefit to the species for which critical habitat [was] proposed for designation,*" per section 218 of the 2004 National Defense Authorization Act and ESA Section 4(a)(3)(b)(i). This revised INRMP continues the applicable protections and procedures for these species.

Scope

The INRMP provides the basis and criteria for protecting and managing natural resources using landscape and ecosystem perspectives, consistent with the military mission. The INRMP applies to organizations internal and external to MCAS Miramar that are involved with or interested in the management or use of Station natural resources and lands. This application includes active duty units, reserve components, Station organizations, private groups, and individuals, including tenants, lessees, easements, or others using real property pursuant to a permit, license, right of way, or any other form of permission.

Relationship to the Military Mission

The Marine Corps has a unique defense mission among the nation's armed services of being able to field, on virtually immediate notice, a self-sufficient air and ground combat force trained as an integrated team under a single command. To prepare for this mission, the Marine Corps must maintain the flexibility to train its units so they are prepared for the challenges they may face in combat. MCAS Miramar is an important facility for satisfying these training requirements.

The mission of MCAS Miramar is "*To maintain and operate facilities, and provide services and material support to the 3d Marine Aircraft Wing and other tenant organizations.*" The mission of the Third Marine Air Wing, the Station's primary tenant, is to "*Provide combat-ready, expeditionary aviation forces capable of short-notice, world-wide deployment to Marine Air Ground Task Force, fleet, and unified commanders.*"

Marine Corps goals for natural resources management, along with those specifically adopted for MCAS Miramar, provided guidance for the development of the INRMP. A critical goal of the INRMP is to support the Marine Corps military mission by ensuring compliance with applicable environmental laws and regulations. This INRMP supports the military mission by protecting and enhancing training lands upon which the mission is critically dependent. The Station has a long, publicly acknowledged history of outstanding natural resources stewardship that will be continued through the implementation of this INRMP.

The INRMP describes impacts of the military mission upon natural resources and the means to mitigate these impacts. However, this INRMP does not evaluate the MCAS Miramar military mission, nor does it replace any requirement for environmental documentation of the military mission at the Station.

Cooperators

This document was prepared in cooperation with the U.S. Fish and Wildlife Service and the California Department of Fish and Game (CDFG), representing the federal and state Sikes Act cooperating agencies, respectively. Appendix F includes coordination/review/concurrence documents from the USFWS and CDFG. Other federal and state agencies, lease and easement holders, nongovernmental organizations, and the general public were afforded opportunities to review and comment on the INRMP.

MCAS Miramar Natural Resources

MCAS Miramar has 19 native and non-native vegetation types and three landcover types. Major vegetation types on MCAS Miramar include chaparral (9,258 acres), coastal sage scrub (3,770 acres), and grasslands (1,907 acres). The entire eastern portion of MCAS Miramar (*i.e.*, east of I-15) functions as an important habitat linkage with adjacent open spaces. The Station has important wildlife corridors that allow for wildlife movement and dispersal. In October 2003 the Cedar Fire swept through MCAS Miramar and much of the region in general. The fire burned about 17,600 acres on the Station; in general, the land is revegetating and repopulating with similar types of natural resources that preceded the fire.



2010 Cedar Fire Regrowth – Austin Bridge Natural Resources

At a minimum, MCAS Miramar supports 7 species of amphibians, 30 species of reptiles, and 39 species of mammals. Well over 200 species of birds have been observed on the Station. Vernal pools and other seasonally ponded features (147 acres) at MCAS Miramar are the largest and most contiguous in southern California, supporting the most important and least disturbed examples of endangered and sensitive species dependent on vernal pool habitat in the region (Bauder and Wier 1991).

Federally listed species found on MCAS Miramar include the threatened coastal California gnatcatcher (*Polioptila californica californica*), endangered least Bell's vireo (*Vireo bellii pusillus*),

endangered Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), endangered willowy monardella (*Monardella viminea*, Elvin and Sanders 2003; *Monardella linoides* ssp. *viminea*, Abrams 1951), and six species associated with vernal pool habitat, such as the San Diego mesa mint (*Pogogyne abramsii*) and San Diego fairy shrimp (*Branchinecta sandiegonensis*). Species of Regional Special Concern (including species at risk of listing) at the Station include former candidates for federal listing as threatened or endangered, species of concern to the State of California, and species that are regionally rare or of limited distribution.

The Station's overall approach to managing natural resources follows the principles of ecosystem management, consistent with Marine Corps policy. The MCAS Miramar strategy for conservation and management is to (1) limit activities, minimize development, and mitigate actions in areas supporting high densities of vernal pool habitat, threatened or endangered species, and other wetlands and (2) manage activities and development in areas of low densities, or no regulated resources, with site-specific measures and programmatic instructions. Management Areas (MAs) were identified primarily to support the conservation and management of Special Status Species, wetlands, and other areas warranting special attention. Level I MAs (2,638 acres) support nearly all vernal pool habitat basins and watersheds and some closely associated coastal California gnatcatcher territories. Conservation needs in Level II MAs (5,824 acres) focus on non-vernal pool, federally listed species. Level III MAs (1,785 acres) support riparian vegetation and habitat linkages not contained within Level I and II MAs. Remaining undeveloped areas not in Levels I, II, or III MAs have been delineated as Level IV MAs (7,532 acres). Level V MAs (5,259 acres) are developed areas that support few unaltered natural landscapes and therefore almost no high value natural resources. Figure 5.1 and Table 5.1 in Chapter 5 illustrate and summarize important resources within these MAs, respectively.

Accomplishments

Chapter 7 discusses specific accomplishments over the past five years with regard to natural resources management on MCAS Miramar. Particularly noteworthy was UFSWS recognition that the INRMP (MCAS Miramar INRMP 2006) was sufficiently beneficial to the coastal California gnatcatcher (USFWS 2007a), San Diego fairy shrimp (USFWS 2007b), Quino checkerspot butterfly (USFWS 2009a), and Riverside fairy shrimp (USFWS 2011a) that designation of critical habitat for these species was precluded aboard MCAS Miramar.

Other notable accomplishments included:

- successes in invasive plant prevention and control;
- increased conservation awareness;
- updated floral monitoring (O’Leary 2009), which demonstrated that virtually no changes were attributable to Marine Corps military activities;
- soil erosion and vegetation damage control on seven sites;
- a study that concluded that the coastal California gnatcatcher will find and inhabit suitable nesting habitat, in spite of the MCAS aircraft noise environment (Hubbs-Sea World Research Institute 2006);
- federally-listed Special Status species monitoring, which, in general, confirmed ongoing habitat recovery from the 2003 Cedar Fire;
- completion of BRAC 1995 vernal pool mitigation commitments;
- managing federally- and state-listed Species of Special Concern;
- inventorying, monitoring, and managing vernal pool habitat and its Special Status Species, including identification of areas that appear suitable for re-establishing vernal pools (Black 2007);
- delineation of non-vernal pool wetlands and other Waters of the U.S. (Lichvar and Dixon (2008);
- meeting compliance requirements associated with migratory birds;
- first off-installation habitat compensation project in the Department of the Navy (mitigation for Miramar Brig Expansion impacts);
- providing technical support for the development and implementation of the 2008 *Bird/Animal aircraft Strike Hazard (BASH) Plan*;
- supporting natural resources-based outdoor recreation, particularly with regard to permitting and management of the Miramar Fish Pond; and
- developing and maintaining Geospatial Information System databases and using them to support Station decision-making.



Vernal Pool Habitat – One of the Station’s most important sensitive resources

Natural Resources

INRMP Implementation Summary

This INRMP will be considered to be implemented when MCAS Miramar:

- actively requests, receives, and uses funds for Must Fund Projects and activities;

- ensures that sufficient numbers of professionally trained natural resources management staff are available to perform the tasks required by the INRMP;
- coordinates annually with the U.S. Fish and Wildlife Service and the California Department of Fish and Game; and
- documents specific INRMP action accomplishments undertaken each year (USMC 2007, Appendix G).

Formal adoption of an INRMP by the installation commander constitutes a commitment to seek funding and execute, subject to the availability of funding, all Must Fund Projects in accordance with specific timeframes identified in the INRMP. Under the Sikes Act, any natural resources management activity that is specifically addressed in the plan must be implemented (subject to availability of funds). Failure to implement the INRMP is a violation of the Sikes Act and may be a source of litigation (USMC 2007).

This INRMP is designed to provide direct input into the USMC CompTRAK environmental budget program. The INRMP (chapters 7 and 9 and appendices F and G) describes specific projects with justifications, timelines, and budgets. Sections 9.4, *INRMP Implementation Funding* and 9.5, *INRMP Implementation Costs* address funding specific to this INRMP and its projects.

The below table summarizes INRMP implementation costs by funding source.

Type Funds Programmed**	Section	FY 11	FY 12	FY 13	FY 14	FY 15	Totals
OPBUD (Must Fund Projects)	9.4.1	\$453	\$637	\$527	\$808	\$694	\$3,119
Agriculture Outlease Income (Must Fund Projects)	9.4.2	\$107	\$102	\$104	\$106	\$308	\$727
Subtotals (Must Fund Projects)		\$710	\$739	\$631	\$914	\$1,002	\$3,846
OPBUD (Other Planned Projects)	9.4.1	\$0	\$0	\$0	\$87	\$0	\$87
Agriculture Outlease Income (Other Planned Projects)	9.4.2	\$290	\$290	\$300	\$290	\$90	\$1,260
Subtotals (Other Planned Projects)		\$290	\$290	\$300	\$377	\$90	\$1,347
Grand Totals		\$850	\$1,029	\$931	\$1,291	\$1,092	\$5,193

* Funding in thousand of dollars.

** Must Fund Project– classes 0 and 1, including staff labor costs; Other Planned Project – classes 2 and 3.

*** Includes the cost of Natural Resources Division staff billets.

Costs and Benefits

- **Costs:** This INRMP will cost approximately **\$5,193,000** for FY 2011 - FY 2015 to implement. Funding will be from Operations Budget funds and income from Agricultural Outlease payments.
- **Military Mission Benefits:** Implementation of this INRMP provides accurate and up-to-date resource information to support planning of military mission requirements. It helps reduce maintenance costs, improve health and safety, and improve the quality of training land and its associated training at MCAS Miramar.
- **Environmental Benefits:** The INRMP provides the basis for the conservation and protection of natural resources. It reduces vegetation loss and soil erosion from military and support activities, reduces the potential for environmental pollution, and promotes biodiversity conservation. Plan implementation increases overall knowledge of the operation of Station ecosystems through surveys and research. INRMP implementation monitors ecosystem/natural resource “health” to decrease long-term environmental costs and reduces personal and installation liabilities from environmental

- noncompliance.
- **Other Benefits:** Interested agencies, groups, and persons better understand the positive management efforts that are conserving natural resources on MCAS Miramar. Quality of life for the Station community and neighbors is improved.

INRMP Organization

This INRMP is organized as follows.

- Chapter 1, ***Introduction*** describes the purpose of and compliance requirements for the INRMP, its relationship with regional conservation planning efforts, and relationships between natural resources management and overall MCAS Miramar and 3rd Marine Air Wing missions. It describes the MCAS Miramar overall strategy for conservation and management and lists goals of that management. It also provides general information on the location and environmental setting at MCAS Miramar.
- Chapter 2, ***MCAS Miramar Land Use*** describes the land use history, military operational requirements and military land use, and nonmilitary land use at the Station and on adjacent lands.
- Chapter 3, ***Physical Setting*** describes the climate, geology and soils, hydrology and watersheds, and potentially contaminated sites on the Station.
- Chapter 4, ***Biological Resources*** describes vegetation and landcover types, vernal pool habitat, wildlife and wildlife habitat, habitat linkages and wildlife corridors, Special Status Species, a summary of the 2003 Cedar Fire, and a description of the Habitat Evaluation Model and its use.
- Chapter 5, ***Management Areas and Land Use Compatibility*** describes Level I-V Management Areas, discusses land use compatibility issues, and identifies the Station's conservation contributions to regional conservation programs.
- Chapter 6, ***Project and Mitigation Planning*** identifies environmental compliance requirements associated with Station project planning, including NEPA, ESA, Clean Water Act, and Migratory Bird Treaty Act requirements, and describes project mitigation planning for both temporary and permanent project effects.
- Chapter 7, ***Natural Resources Management*** identifies Marine Corps and Station natural resources management goals, specific objectives to attain these goals, and individual natural resources management projects in a standard format with justifications, timelines, and budgets.
- Chapter 8, ***Compliance and Law Enforcement*** describes means to maintain conservation compliance awareness and environmental compliance and natural resources-related enforcement.
- Chapter 9, ***INRMP Implementation*** identifies Marine Corps and Department of Defense policy regarding implementation of this INRMP and identifies personnel, personnel training, supplies and equipment, project support, funding, and command support needed to implement this INRMP.
- ***Literature Cited*** documents all sources referenced in this INRMP.
- ***Preparers and Agency Reviewers*** identifies individuals, with their qualifications, who prepared this document and Navy/Marine Corps, USFWS, and CDFG personnel who were consulted during preparation of this INRMP.
- ***Appendices*** contain information or data relevant to implementation of the natural resources management on MCAS Miramar.

For those who are primarily interested in natural resources actions and projects planned for 2011-2015, they are identified in chapters 7 and 9; summarized for budget purposes (Must Fund Projects and Other Planned Projects only) in sections 9.4, *INRMP Implementation Funding* and 9.5, *INRMP Implementation Costs*; detailed in standard format (must fund and other planned projects only) in Appendix D; and summarized (all actions and projects) in Appendix E. Appendix E can provide a basis for evaluating plan implementation.

Summary

The Marine Corps believes that military activities can be compatible with the conservation of sensitive biological resources. MCAS Miramar will continue its well established program of managing and conserving its natural resources in support of the Station military mission. The DoD, and MCAS Miramar in particular, recognizes that degradation of the land degrades its use for realistic training, and thereby degrades readiness.

The INRMP outlines steps required to meet DoD, U.S. Marine Corps, and MCAS Miramar legal obligations to provide for the stewardship of the natural resources on MCAS Miramar, while supporting the accomplishment of the military mission. The INRMP has been developed through cooperation with appropriate regulatory agencies. As a public document, it will support and perpetuate the military mission while fostering stewardship and goodwill for MCAS Miramar. This INRMP will not resolve all existing and/or future environmental issues. It does, however, provide the guiding strategy, personnel, and means to minimize and work toward resolution of such issues.